



AN ANCIENT CHARIOT RACE; taken from a Roman Tablet in the British Museum, in which the Bands of the THYOPHEDES for the defence of the Test are represented.

AN ESSAY

On the Knowledge of the Ancients respecting the Art of Shoeing the Horse, and of the probable period of the Commencement of this Art.

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THE necessity which there appears for protection to the feet of horses used much on the road, would naturally lead to a belief that this art had been practised from very early times, and nearly, or quite coeval with their first subjugation to the use of mankind, and in proof of which many passages have been adduced from the writings of the ancients which were thought to favour such an opinion. It does not however appear that these passages, when properly examined, do at all confirm such an apprehension; and we shall now proceed to the consideration of some of the most interesting and remarkable of them.

As being one of the most ancient, and frequently brought forward on these occasions, we shall first advert to the expression of Homer, who, in describing the car of Neptune, uses the epithet “*brazen-footed*” to the horses attached to this car, which has led several of the learned into the belief that these ancients were not unacquainted with modern shoeing, and that these horses were actually shod with

shoes of brass.* And in the eighth book of the *Iliad*, v. 41, 42, are employed nearly the same phrases in his description of the Car of Jupiter and its horses, when this deity is introduced as about to descend from Mount Ida to decide the fate of the contending armies of the Greeks and Trojans. And it is the expression χαλκοπόδ' ἵππω in these two passages which has led many into the belief that these horses had on shoes of brass, and consequently that the ancients were acquainted with this art of shoeing. And that this belief, though not universal, has been very generally prevalent, may be gathered not only from the opinions of the learned, but also from other sources. In one of the finest paintings of Lebrun, the celebrated French artist, which we saw in the Louvre, we noticed that there were shoes upon the feet of the horse of St. Paul, and with most prodigious large calkins, which were lifted up high in the air in terror at the lightning which attended his conversion. Bourgelat also appears to have been fully of this opinion. And our excellent Dr. Johnson, in the *Rambler*, makes his virtuoso possess “a horse-shoe broken on the Flaminian way.” The learned Vossius also perfectly acquiesced in this sentiment.

It is not, however, from the language of poetry that it would be so proper to form decisive conclusions upon this matter, as figurative language will often admit of such very different interpretations: we shall therefore leave our direct proofs of their ignorance in this respect till we come to the more plain prose writers of succeeding times who have expressly treated of the horse himself, and where the proofs, we believe, will be of a nature the most indubitable. All we desire here, in adverting to these passages, is, to give some probable account of the causes or reasons which have led to those singular expressions of their poets.

* Ἐνθ' ἑλθὼν, ὑπ' ὅχεσφι τιτύσκετο χαλκοπόδ' ἵππω,
ᾠκυπέτα, χρυσέοισιν ἐθείρησιν κομόωντε. *Iliad*, lib. xiii. l. 23, 24.

Ως εἶπον, ὑπ' ὅχεσφι τιτύσκετο χαλκοπόδ' ἵππω,
ᾠκυπέτα, χρυσέοισιν ἐθείρησιν κομόωντε. *Id.* lib. viii. v. 41.

Another, and a stronger passage, as it is supposed, than the above, in favour of this belief in their knowledge of the art of shoeing, occurs in the eleventh book of the Iliad, l. 152, and which led the learned Didymus and Eustathius fully to embrace the opinion that they used shoes.

Πεζοὶ μὲν πεζοὺς ὄλεκον φεύγοντας ἀνάγκη,
 Ἰππεῖς δ' ἵππων, (ὕπὸ δέ σφισιν ὤρτο κονίη
 Ἐκ πεδίσ, τὴν ὤρσαν ἐρίγδσποι πόδες ἵππων)
 Χαλκῷ δηϊόωντες· ἀτὰρ χρεῖων Ἀγαμέμνων
 Αἰὲν ἀποκτείνων ἔπετ', Ἐργεῖοισι κελεύων. l. 150.

“ *Pedites quidem pedites interficiebant, fugientes necessitate,
 Equites verò equites, (ab ipsis autem excitatus est pulvis
 E campo, quem excitabant grave strepentes pedes equorum)
 Ære cædentes. At rex Agamemnon
 Semper interficiens insequabatur Argivos adhortans.*” l. 150.

Dr. Samuel Clarke, not quite embracing this opinion of shoes, was led to suppose that a whole line was somehow omitted, and that the expression *χαλκῷ δηϊόωντες* did not allude to the feet of the horses, but to the weapons or arms of the men who laid waste the flying enemy; and which interpretation is generally adopted: and to establish this view of the matter, he formed into a large parenthesis the preceding line, and punctuated the passage as seen above, giving a Latin translation of course, in conformity with this view of the subject, which we have also subjoined.

Now if it were true, and admitted for a moment, that the ancients did not understand shoeing, of which demonstrative evidence will appear hereafter, then nothing could have been more natural to a people so circumstanced, and whose whole dependance was placed in the powers and strength of the natural hoof to endure labour, to extol, and hold in the highest estimation, this very necessary property, and to give it preference and higher value than any other, as without it the horse was to them nearly useless; and it would assuredly be the first part to fail them if not so endowed: hence, we believe, will be seen the true intentions of the writer. In the Latin

poets we have also similar expressions favouring this impression, and which have no relation to any metallic substance, as “*quatit solidungula campum*,” (Virg.) where the solidity and strength of the foot is evidently only in the view of the writer; also “*cavatque*”—“*Tellurem et solido graviter sonat ungula*,” (Georg. lib. 3,) and which expressions, we apprehend, are not understood to their full extent without being aware of the above circumstances and situation of the ancients in respect to their horses’ feet. And in the words “*insultare solum*,” &c., the poet would impress us with the idea that no defect of the foot, or fear of using the hoof existed, but the greatest firmness and strength. In the expression “*molli fulta pede*” of Horace, we have again the opposite condition of the foot portrayed; and these passages will derive a new strength and clearness also from these considerations.

Brass, or a kind of brass, was the chief metal in use in those early times of Homer; and from being the strongest substance they were acquainted with, it became very naturally with them the epithet of strength, and is continued down to this day, and familiar in most languages, as with us in the phrases, *brazen Towers*, *brazen Lungs*, *brazen Face*, &c., that nothing could have been more perfectly natural than Homer’s application of it where the strength and durability of the hoof was intended to perfect the character of his natural horse.

The above words also, in strictness of language, can convey no such meaning as brass shoes; for if these horses had been really shod, “*brass-clad hoofs*” would have been the expression of so accurate a writer, and not “*brazen-footed*,” in which there appears a wide and just distinction; and in the succeeding line of the first of these quotations are given by the poet the other natural beauties of the horse, of form and colour, with which to combine such artifice would have been very uncouth, not to say improper: and in other instances in which he introduces the horse in this poem, which are

numerous, he employs, and not indirectly, the term "*strong-hoofed*,"* serving to confirm the above intention of the writer in these phrases.

If the shoeing art was known in the days of Homer, there appears no reason why it should not have been continued in the succeeding ages of this empire, since the arts went on improving in the states of Greece long after this period, and almost to the time of their being subjected to the Roman power: and that so important an art as this is, if it had existed, could have been lost again, is not to be believed, by a nation of such extraordinary ingenuity, having eminent occasion for it in their almost continual warfare.

The strength of the natural hoof to a people unacquainted with shoeing, it is reasonable to believe, would, not only with their poets, be a leading subject of exultation, but it is likely also this valuable property with their generals would be a matter of some solicitude, since the safety of the soldier would much depend upon it; and of this there is sufficient evidence in the writings of Xenophon, a warrior intimately acquainted with the horse, and the management of him, according to the customs of his days; and we are led to believe, from the paucity of writings respecting the horse, after him, either in Greece or Rome, that his instructions were deemed so plain, satisfactory, and useful, that but little required to be added to them. He was a chief conductor of the cavalry movements of the ten thousand Greeks in their famous retreat from Persia, after the defeat and death of Cyrus the Younger, and which retreat is considered among the most extraordinary feats in the history of arms. His solicitude respecting the feet of horses is remarkable; and his directions in this respect, to preserve them hard and fit for service, as a matter of great curiosity, we subjoin, and we believe with fidelity, in respect to the intentions of the writer, not merely from our own researches on the feet, but by obtaining the aid of more learned friends respecting the import of the language itself.

* Αἶψα δὲ Τυδείδην μέθεπε κρατερώνυχας ἵππους.—*Il.* lib. v. 329.

“In like manner, as food and exercise are sedulously to be administered to the horse, that his body should be strengthened, so the feet also require a careful attention; since these, from the wetness or smoothness of the stable shall be injured, even such as are the most perfectly formed. In order to prevent the moisture from lodging, they should have a descent; and that they should not be too smooth, stones should be imbedded by one another, corresponding in size to the hoofs, for in such stable those horses that stand therein will have their feet strengthened. Next also, he that has the care of the horse should be mindful to lead him forth when he is to rub him down, as it is best to remove him from the crib after the mid-day feed, that he may have a better relish for the evening feed.”

“In order to render the yard or place outside the stable the best possible, and that it might tend to spread or dilate the feet, (κατερπυνναι,) a sufficient number, as four or five waggon-loads, of round stones, cut or docked round to the proper size, should be thrown down at random, and surrounded with a rim or border of iron, that they may not be scattered; for by setting his feet on these, the same purpose is answered as though he had exercise during a certain portion of every day on a paved way. It is proper, when they be rubbed down and curried, (μυοπισομενον,) that he should use his hoofs as when he is walking, and the frogs also of the feet will be strengthened by the stones strewed about.”†*

If the ancients used shoes, why should there be this solicitude about preserving and strengthening the natural hoof?—if shoes had been nailed to their feet, there could have been no use in this proceeding; nor could the stones have at all benefited them, or have come in contact with them: their use and intention appears to be, and indeed he confirms it, that their hardness should condense and

* In allusion to the mouse, it being perhaps a sort of soft hairy brush, somewhat in form like a mouse's back.

† ΞΕΝΟΦΩΝΤΟΣ περὶ ἵππικης.—Ed. Leunclavii, Francof. 1596, p. 938.

harden the hoof, and by polishing and rendering smooth the bearing surface of the wall, render it less subject to fracture or wear, whilst the roundness and hollowness of the hoof, it was imagined, was maintained by the convexity of the stones fitting into the concavity of the under surface of the foot.

In another treatise of this ancient writer, in which he undertakes to point out the duties of a master of horse or cavalry, he thus delivers himself respecting the feet, enforcing and repeating his former directions. “*That the horse’s feet may be the strongest possible,—(if any one has a better or more perfect method let it suffice,)—if not, and I say it from experience, that you should throw down stones taken from the roads, of the weight of a $\mu\nu\alpha$, (a pound*) more or less; and that the horse should stand on them whilst he is being rubbed down when he goes from the stable; for by walking on these stones, he will not cease to tread and paw upon them, either when he is rubbed down, or when he is curried; and he who tries this will believe what I say, and will find his horse’s hoofs made round by it.*”†

It is hardly necessary to observe, that this most useful and elegant writer lived about five hundred years before the birth of our Saviour, and consequently near the period of the greatest refinement of the Grecian states.

Having exhibited what we believe to have been the real intentions of the Græeks in these passages and expressions, which we shall again hereafter advert to with farther confirmatory evidence; we now shall take a somewhat novel view of what appears to us the genuine explanation of the great obscurity and difficulty which appears from the language of the commentators on the above passage in Homer, fully feeling the presumption of offering an opinion after such very

* A stone to fit the concavity of the hoof would weigh many pounds, which seems to point out a different weight than our pound English, though it is usual so to translate it.

† ΞΕΝΟΦΩΝΤΟΣ ἱππαρχικός. Editio Leunclavii, Francofurt, 1596, p. 956.

eminent men, especially as being myself not greatly skilled in horses, and still less in the critical knowledge of the Greek tongue : it would, we consider, be a base dereliction of duty, however, not to do it, where the way seems to us pretty clear, leaving future annotators of the passage to adopt or reject it as they please.

Dr. Samuel Clarke, certainly one of the best, if not the very best, of the commentators on Homer, and who is generally followed in the schools, denies the words *χαλκῷ δηιοωντες* as at all relating to the horses, but believes they relate to the men, that is, the soldiers' slaying, or laying waste with their weapons (often of brass in those times) the flying enemy, but feels the difficulty of his conjecture, and is obliged to make a large parenthesis for the horses in the preceding line, to make it refer to the soldiers, and to punctuate accordingly, thus greatly forcing the natural order and disposition of the text.

If the suggestion we are about to give be thought at all reasonable, it will have the advantage of leaving the text of the whole passage exactly as it is found in the old editions, without the necessity for the alteration of a single letter, or point in the punctuation ; and the sense, we apprehend, is rounded and finished as the poet meant, and such as would satisfy the most fastidious critic.

The word *χαλκῷ* then, we are assured, does not relate to the arms of the men, as Dr. Clarke supposes, but to the horses, (*ποδες ιππων*) mentioned immediately before in the preceding line, and which it is but perfectly natural it should : to explain the difficulty respecting the *χαλκῷ*, we have very little doubt that it is an abbreviated or contracted word of greater length, which it would be inconvenient to use on account of the metre, and that *χαλκωνυξ*, or *χαλκονυχῷ*, would have been the full word if it had been used, but which, by a figure, I believe the rhetoricians call synecdochy, which "part for the whole doth take" is substituted, being sufficiently intelligible in an abbreviation, and may have been the vernacular phraseology then in use ; for in horsemanship, as in other arts, their technical phraseology is not always to be scanned by the nicest rules of grammar. Should this view of the

matter be considered as at all admissible, we shall then have a very natural sense to the whole passage in the following version.

The foot are to the foot opposed,—who fly are surely slain,—
 And horse to horse : their conflict clouds with dust
 The plain, raised by the resounding feet of the horses,
 Which with brazen hoofs lay waste the flying foe. Then mighty Agamemnon,
 Ever slaughtering in his deadly course, follows, cheering the Greeks ;

which sense appears to follow naturally, and to represent the actual scene intended.

In the Latin translation, we humbly apprehend, that for “*Ære cædentes*” should be substituted the words *ungulis duris vastantes*, the faithful representatives of χαλκονυχοις δηιοωντες, or hard hoofs of the horses ; and more formidable arms need not be employed against a flying enemy than the heavy feet of the horses, pushing them down, and trampling upon them.

In contemplating this subject, a few remarks have very unexpectedly occurred to us respecting this same word χαλκω, which in a singular manner finds its way into the Latin language also, and from a noun substantive becomes changed into a verb active, *calco*, and one too, of a most active signification indeed,—that of *stamping* upon, or *kicking* ; and what is remarkable in its new office, all sight of the foot, the agent of it, is entirely lost, and the brass only is left remaining. The word *calcans* is also used for trampling upon, and the word *calx* is used for the heel of the foot, without doubt from the nominative χαλκος, reduced into a Latin termination, and derived pretty evidently from its being the *brazen* part, that is to say in other words, the *hard part* of the foot ; and what is further remarkable is, that this word has found its way into our English language also in horse affairs, and in *calkins*, used for our horses’ heels, which in fact are two hard projecting points of the iron shoe, we again recognize this ancient phraseology. And in *cawk*, or *calk*, we believe it should be written, used among the miners, alluding perhaps to the very great hardness of the material, we have the same term. So that at last the term calk, or χαλκος, brass, and hardness, become

almost or quite convertible terms. And what is also most singular,—at least so it appears to us at present, is, that the whole immense family of the *Calcares*, that is, of the calcareous earths and salts, almost infinite in number, derive their distinctive appellation from this same word χαλκος, obtained no doubt from the extreme hardness of some of these stones before they are burnt and reduced to lime. And in *callosity*, or *hardness*, we have another undoubted derivative from this same source, where the *kappa*, κ, is removed on account of euphonious pronunciation, and is replaced by a second *l*. In the word *chalk*, the original chi, or ch, is still retained, and the word χαλκος very nearly appears in its original form. And it is even doubtful if in some cases it may not extend into figurative and abstract terms of language, of which we have sometimes thought *calumny* might afford an example, proceeding from χαλκος, *hard*, or *bad*, and ονομα, *name*: it is however, not without hesitation and diffidence we hazard the latter conjecture; but our confidence is somewhat heightened by observing that the common dictionary derivations of this word are not at all satisfactory; and so in a multitude of other words beginning with *cal*, as *callous* from its hardness. And χαλκος once brought into the Latin (*calx*) for the heel of the foot, becomes an expressive and fruitful patronymic, branching in two directions, as being the hard part, and also as being the end or termination of the limb. In this latter sense it became applied to metals, when these were by combustion reduced to a dross: this end, termination, or residue, was then called the *calx*, or *heel* of the metal, and it was said to be *calcined*. In *colcothar*, as it is generally but erroneously written, we have the *calcothar* of the metal; and in *calomel* we have the *calx melas*, or black oxyd of mercury, obtained by simple agitation, in which state it is reasonable to suppose it was first exhibited. The above two words being combined in one for more convenient use, with the *x* omitted, make the word *calmel*, to which was subsequently added, for easier pronunciation, the vowel *a*, thus making *calamel*, the name it still retains in speaking of it, but

which fashion, or misapprehended etymology, changed to an *o*, and which has led to the absurd conceit about *καλος μελας*, known to every body, and unworthy on several accounts of a serious refutation. In *calamity* we also probably see another unexpected derivative of this most fruitful stem; for it is singular that in the dictionaries, as of Ainsworth, one of the best, no notion seems to be entertained of the Latin *calx* being from this *χαλκος*. In conclusion, it appears to us not improbable that *χαλκοποδ' ιππος* with the Greeks conveyed rather the impression of the hard or solid foot than that of the brazen foot, and which caused Virgil perhaps to adopt the term *solidungula*, intending in so doing to imitate his great master Homer,

Our own admired poet, Alexander Pope, translating no doubt from the old editions of Homer, gives the word *χαλκω* in this passage as relating to the feet of the horses, and not to the arms of the men, and as signifying the same as *χαλκοποδ' ιππος*, or “brazen-footed horse,” the favourite and frequent epithet of Homer, but which we object to in this place, as *ποδες* occurs just before it in the preceding line, and the repetition so close would form a sort of tautology: hence we are led to suppose that the hard, sharp, front of the *hoof* itself, was more particularly intended in this word, and therefore that *χαλκωνυχο*, or *χαλκωνυχοις*, it being in the ablative case, was understood; which word *χαλκωνυξ* is seen in the Lexicon of Hedericus. And the foot of the horse in war, impelled by the weight and vigorous action of the animal, would prove a most cruel instrument of destruction. We are fully aware we have been led by these new, and to us, unexpected derivations, and a desire of getting at the truth of this passage, to venture a little out of our direct province: viewing the subject however as the horseman rather than the scholar, we may hope for indulgence if we have erred in so doing.

That these ancients knew not shoeing, it will be fair also to presume from the sacred Scriptures, in the following passages: “Then were their horses’ *hoofs* broken by the means of the prancings of their mighty ones:” *Judges* v. 22. “With his horses’ *hoofs* shall he

tread down thy streets :” *Ezekiel* xxvi. 11, speaking of the downfall of Tyre. Also, “Arise and thresh, O daughter of Zion : for I will make thine horn iron, and I will make thy *hoofs brass* :” *Micah* iv. 13. The remarkable expression of the prophet Isaiah, who, in foretelling the downfall of Jerusalem, uses these words : “Whose arrows are sharp, and all their bows bent ; their *horses’ hoofs* shall be accounted like *flint*, and their wheels like a whirlwind,” (ch. v. 28,) alluding to the Roman armies, who but too dreadfully fulfilled this prophecy. It is also to be remarked, that here the material selected for the metaphor or epithet of strength, is harder than brass, and such as could in no way be made into shoes.—Also their sculptured figures of horses on the celebrated columns of Trajan and Antoninus, every where without shoes, come in strong confirmation of this truth.

We now pass to the consideration of various passages found in other ancient writers engaged in rustic occupations and in war, and we shall there plainly see that the horses could not have been shod ; and if we afterwards show that defence was sometimes resorted to, we may be assured that it was not with shoes nailed on both sides of the foot, through an iron ring, as in the modern shoeing.

As being the most ancient, we shall first begin with the warriors : in Diodorus Siculus, lib. xvii. c. 94, Ed. Weissilingii, p. 233, we have the following passage : *Και των μεν ἵππων, δια την συνεχειαν της οδοιποριας, τας ὀπλας ὑποτετριφθαι των ὀπλων τα πλειστα κατεξανοσι συνεβαινε*, that is, “*Equorum ungulæ propter itinera nunquam remissa detritæ et armorum pleraque absumptæ erant.*”

And Cinnamus complains in a similar way of the consequences of detrition : *Παθος γαρ τι τοις αυτων πεσμασιν επιλεγονος, οδη τω ἵππειω επισκοπτειν ειωθε γειρει ισχωρος αυτους εγισεν.* *Cæteras copias manere in Attalia et equos curare jussit, “nam malam cui est obnoxium equinum genus plantes pedum acciderat, graviterque efficerat.”—Editio Tollii Traject. ad Rhenum, 1652, lib. iv. p. 194.*

Appianus also, in his account of the siege of Cyzicum by Lucullus, observes : *Τοις δ’ ἵπποις ἀχρεῖοις οἱ τότε ὄντας καὶ ἀσθένεις δι’ ἀτροφίαν καὶ χωλεοντας*

ἐξ ὑποτρίβης, ἐς Βιθυνίαν περιέπεμπεν. Equos vero tunc inutiles et infirmos ob inedia, claudicantesque *Solearum inopia*, detritis ungulis, aversis ab Hoste Itineribus misit in Bithyniam.—*Appianus De Bello Mithridatico*, Ed. Steph. 1592, p. 221.—Here *Solearum inopia* are introduced by the learned translator (H. Stephanus) without the smallest authority in the original text, to make it appear that they were shod.

And the commentator of Suetonius, under the life of Vespasian, has taken the same course; from which Schaeffer, in his truly learned and useful work, “*De Re Vehiculari Veterum*,” appears to have been led into error in the same belief. On examining the passage he quotes as the words of Suetonius, we find he has mingled with it the words of the commentary, to make his proofs appear the more clear:* indeed the circumstance of the muleteer of the Emperor getting down and fastening on the shoes of the mules, and detaining the car while the solicitor, who had previously bribed the muleteer to do so, presented his petition to the Emperor, would show that they were not nailed shoes; for no coachman, in these more experienced days, would undertake such an operation, or would have about him all the requisites for doing it, but would leave it to the smiths: that this, like most other passages, if fairly construed, would make against rather than for, their supposition. The following is the original passage of Suetonius: “Mulionem in itinere quodam suspicatus ad calciandas mulas desilisse, ut adeunti litigatori spatium moramque præberet: interrogavit, quanti calciasset: pactusque est lucri partem.—*Suetonius Vita Imp. Vespas. de Facetis*, p. 120.

* Ut testatur Suetonius in Vespasiano, qui frequenter solebat lectica deferri in villam suam Cutiliam, sed a mulis quoniam quadraginta milliarum intervallo abesset Roma: Hinc qui lecticam ejus deferebat, solicitatoris cujusdam donis corruptus, è mulis retentus fingeret se aptaturum Soleam ferream pedi unius ex mulis, tempus dabat supplici ad porrigendum Imperatori libellum.—*Schaeffer De Re Vehiculari*.

In proof of the detrition of feet, we have the following passage in the *Cynegeticon*, or treatise on dogs and hunting :

Ante opus excussis cadet unguibus.—*Cyneget.* v. 11.

Before the work is done, he falls, from hoofs worn through.

Of the agricultural writers of Rome, who had occasion for horses and mules in the cultivation of their villas, Cato the Censor was the earliest in this species of writing ; we have read him for that purpose, and there does not appear any very striking passage ; but in the next writer, which is Varro, we find the following : “ *Cruribus rectis et equalibus, genibus rotundis, nec magnis, nec introrsum spectantibus, ungulis duris.*”—*Varro*, lib. 2, p. 306, *Ed. Gesneri*,—that in the choice of a horse, prefer one “ with straight limbs, joints rounded and even, but not too large, or bending inwards, with *hard* hoofs,” a quality so continually insisted upon with these writers, but which no one using nails would particularly desire—of primary value, however, where the horse was used without shoes.

In the next writer on rural affairs, Columella, the most elegant and comprehensive of them all, and who lived in or near the age of Augustus, we find the following advice respecting the stables for a country villa—“ That the master should frequently go into his stable, and should especially see if the paving of the stalls rise sufficiently in the middle, and that they are not made of soft wood, as frequently through want of knowledge or negligence was liable to happen ; but that they be made of hard oak timber, solidly compacted together, which sort of wood hardens the hoofs of horses like stones.”* He observes in another place, that in the choice of a horse, select such

* Diligens itaque dominus stabulum frequenter intrabit, et primum dabit operam, ut stratus pontilis emineat, ipsumque sit non ex mollibus lignis, sicut frequenter per imperitiam vel negligentiam evenit, sed roboris vivacis duritia et soliditate compactum ; nam hoc genus ligni equorum ungulas ad saxorum instar obdurat.—*Col.* lib. i. *Ed. Manh.* p. 73.

as have *hard hoofs*, upright, (opposed to flat) hollow, or concave beneath, and round, with coronets of a middle size.*

Pliny also observes, in speaking of mules, “Generantur ex equâ et onagris mansuefactis mulæ velocis in cursu, duritiâ eximiâ pedum,” &c.—*Ed. Elz.* tom. i. p. 349.

To the rustic writers succeeded the Greek veterinarians of the Byzantine empire, in point of date, with whom there appears on this head nothing very striking: these were succeeded by Vegetius, who was the last, or latest of all the writers among the ancients, living under Valentinian the 3rd, in the fourth century, and from his work more secure conclusions may be drawn of the ancient usages with these animals than any other. He has diligently brought together nearly all the diseases and casualties of the horse, the different breeds then in use, and their qualities: yet has this elegant and comprehensive writer never once alluded to an iron nailed shoe, or touched upon one of the abuses or accidents that such practice is necessarily encumbered with; and which, we believe, by all reasonable men will be admitted proof sufficient that they could not have known this art, as it would be utterly impossible he could have passed it over in silence had such art been in existence. Also in his work, the most brief and elegant of its kind, according to Gibbon, “*De Re Militari*,” where he enumerates the entire apparatus of a Roman army forge, (lib. ii. c. 25,) is there the least mention of such a class of artificers, or the smallest provision for shoeing the horse. And at which period, therefore, it may be safely concluded the art of shoeing with nails was entirely unknown in that quarter of the world.

Before we enter upon the consideration of what was the real nature of the shoeing of the ancients, we shall here take the opportunity of adverting to an expression of their poets, not unfrequently

* Duris ungulis et altis, et concavis rotundisque, quibus coronæ mediocres superpositæ sunt.—*Colum.* lib. vi. p. 50,—“Ut ungulas duret sitque postea longis itineribus habilis.” p. 63.

used when speaking of the horse, and which also relates to his feet, and is not generally fully understood; this is the epithet *Sonipes*, which to a youth learning Latin, and not acquainted with the real situation of their roads and horses, would be somewhat obscure; for in our horses clad with iron, and used on a gravel road, no particular sound would be produced that would justify or explain an expression of this kind.

It appears to have had its origin in that these nations, not acquainted with the arts of shoeing, constructed their roads in a manner to accommodate horses so circumstanced, and used the natural hoof upon their hard, smooth, causeways, curiously formed of large, flat stones, placed close to each other, and admirably jointed and cemented together, raised in the middle, upon which their hard, hollow hoofs, resounded again, and could be heard along a surface so smooth to a very great distance; and this reverberation was perhaps assisted in many cases by the mounds thrown up on each side of them, and also by these roads sometimes running through valleys which echoed the sound;* hence the epithet was strong, and suggested itself very naturally. The following are examples.

Stat *Sonipes* ac fræna, ferox spumantia mandit.—*Æneid*, l. 4, 135.

Quo *Sonipes* ictu furit arduus, altaque jactat.—*Æneid*, l. 2, 600.

And the flattering poet Claudian thus addresses the Emperor Honorius,

O felix *Sonipes* cui tanti fræna mereri

Numinis.

Claud. Epigram.

* *Bergier*, Histoire des grands Chemins de l'Empire Romaine, liv. ii. cap. 1, p. 28. Also liv. iv.

Procopius, In Hist. Arcana, c. 30. Libanius Orat. 22, and Itineraria, p. 572, 581.

Private property, every thing, was sacrificed for these causeways; hills were sometimes perforated, and valleys and rivers boldly arched over. Their formation and construction was elaborate and curious: the middle part being raised, consisted of strata of sand, gravel, and cement, paved over atop with large stones: near the capital these were of granite.—Post-houses were erected along these ways, at the distance of five or

On the Defences occasionally resorted to by the Ancients.

THOUGH it was certainly not the custom of the ancients to shoe their horses, yet they appear at times to have had recourse in difficulties, and in cases of abrasion, to artificial defence, and which was probably of the most simple kind.

And we have seen by the preceding quotation from Suetonius, that the horses of the Emperor Vespasian were defended in some way, as the coachman or muleteer got down to fasten one of them, while a petitioner for some favour, gained opportunity of access to the Emperor, who, suspecting the trick, facetiously asks his man how much he should get for the shoeing, as “he meant to go halves with him:” it is clear, therefore, some defences on that occasion were used: now the question is, as they could not be nailed shoes, of what description were they.

Also in Suetonius’s life of Nero, cap. xxx., he says that this emperor had in his train a thousand carriages drawn by mules in shoes of silver;—the shoes of the mules of Poppœa, the wife of Nero, were also made of silver. These passages and the lines of Catullus also sufficiently demonstrate the same use of defences—

“*Et supinum animum in gravi derelinquere cæno,
Ferream ut soleam tenaci in voragine mula.*”—xvii. 23.

Some of the learned have conjectured that the Greeks used the

six miles apart, for the purposes of government, each being constantly provided with 40 horses; and by the help of these frequent relays, it was possible to travel 100 miles a day. In the time of Theodosius, *Cæsarius*, a magistrate of high rank according to the *Codex Theodosianus*, lib. viii. tit. v. vol. 2, p. 506, 563, ed. 1, *Godefroy’s Commentary*, went post from Antioch to Constantinople, a distance of 725 Roman, or 665 English miles, in six days: see Gibbon, *Decline and Fall*, lib. i. cap. 1.

leg defences they called *Embattai* for the feet of their horses; and Xenophon makes mention of such towards the conclusion of his book, *De re Equestri*; but he describes them only as covering the legs of the soldiers for defence, and adds, "that in passing them under the feet, (still meaning the soldiers) they might also serve for shoes." That these *Embattai* might not have been sometimes used for the horses, we do not deny; but that such practice is alluded to or confirmed by this passage in Xenophon is very evidently not the fact.*

Next the *Carbatinai* (Καρβατιναι) in like manner have been mentioned as defences for their horses' feet, and which appear to have been much of the same nature as the former, but were of a coarser kind, and used chiefly by the rustics, constructed perhaps of very rough cloth, ox-hide, or untanned leather; and that these were really employed for their animals is clear from what Aristotle says of the camel, that "in going long journeys, his feet were subject to become tender, and they were then defended by the *Carbatinai*."†

These *carbatinai* were probably much like what the sportsmen and rustics use, formed of a rough, thick kind of leather passing round the feet and up the legs. A rude covering of this sort made stouter next the ground or beneath the sole by the addition of cloth, or leather, and carried to the tops of the shanks, was really what these ancients appear to have employed for their horses; sometimes on occasion, again defending the lower parts or beneath the sole, by iron, brass, or silver. The parts of them which passed above the hoofs

* Εἰ ἐμβатаὶ γένοιτο σκύτους ἐξ οἴου περ αἱ κρηπίδες ποιοῦνται, οὕτω γὰρ ἂν ἅμα ὄπλον τὲ κνήμαις, καὶ ποσὶν ὑποδήματ' ἂν εἴη.—*Xenophon de Re Equestri*. Ed. Leunclav. p. 953.

From the word *embatai* probably comes the French *emboiter*, and passing through the languages of the Netherlands to us, it becomes the familiar English word *boots*.

† Arist. Hist. Anim. Lib. ii. p. 850, edit. Loemar. 1597.

and up the legs, were certainly used for fastening them on by, and these parts might, on splendid occasions, have been ornamented. It is however, a remarkable circumstance that these *embattai*, *carbati-nai*, or *horse-leggins*, as we may call them, were never once mentioned by name in these veterinary or rustic writers, or excepting once in the Greek veterinary writers under the term *hippopodes* as we shall see hereafter. *Solea*, however, is the term used in the Latin writers where these appear to have been employed, and never *calceus*, the term used for their own *sandals*, whilst the action of shoeing, is expressed by the verb *calceo*, and is indiscriminately employed for both horse and man.

Vegetius speaks of *lemnisci* as used to the feet of the horses, which appear to have been intended to strengthen the *solea*, or in cases of excessive abrasion, as pads to the feet, for softness and ease. The following is an instance of their application *Spartea calceabis cui LEMNISCOS subjicies*," lib. iii. cap. 18. Manh. ed. p. 198. In another part of his work he says, *pannos vel lemniscos*, which would seem to indicate that soft cloths would do, or if stronger were required *lemnisci* which probably were made of stout soft leather. Again *lemniscus* is used by him for a seton several times, p. 138. *ed. cit.* by which term it is pretty clear he meant the thing we in technical language call a *rowel*, giving it the name of *lemniscus*, as being made of the same material as the *lemnisci* used for the feet, *viz.* of leather, and the same material is sometimes used for rowels in these days.

Now in respect to the fastenings for these Roman shoes we are enabled to afford indubitable proof of this being done by bands about the legs, but we defer our account or consideration of these at present, in order to notice another species of defence described by Vegetius for the feet of horses, and which has been also often mistaken for shoes.

OF THE SPARTEUM OPUS OR BROOM PLATT.

This defence, or enclosure rather, for the foot, was formed of the slender twigs of the broom, called *σπαρτον* and *σπαρτιον* by the Greeks, and *spartea*, *sparcea*, and *spartem opus* by the Romans: there is much reason to doubt however if it was employed for protecting the foot upon the roads in the way of a shoe. By selecting a few of the original passages wherein they direct its use, we shall be led to form more just conclusions of the real intention of it.

Columella, one of the earliest of the rustic writers, living in or near the age of Augustus, prescribes for oxen that become lame or tender, “if it be downwards, or in the hoofs, that you should make a slight opening between the claws with a knife, and afterwards apply soft rags or cloth soaked in salt and vinegar; then let the part be covered with the *spartean shoe*, (*solea spartea*) and let there be great caution that no wet come near it, and that the stable be kept very dry.”*

Theomnestus, one of the Byzantine veterinarians before spoken of, recommends its use in the following way, in a case of *excessive* abrasion of the hoofs, which also adds another proof to their not using shoes. He says, “if a horse is much torn in the hoofs by travelling, and then is neglected, he becomes feverish, and is soon destroyed by the fever if not timely prevented by help. You must therefore use warm water, in which the root of the *althæa*, or wild mallows has been boiled, and to foment the foot with it till it becomes cleaned and softened; you must then file off the ailing parts or fragments, and lay bare all bruises in the water; and then you are to have immediately in readiness *slender* twigs of broom, or *twine* cords, and

* At si jam in ungulis est, inter duos ungues cultello leviter aperies, postea linamenta sale atque aceto imbuta applicantur, ac *solea Spartea* pes induitur, maximeque datur opera ne in aquam pedem mittat et siccè stabuletur.—*Columella*, Ed. Manli. 2, p. 27.

coarse rough cloths, (flannels or sear-cloths, perhaps,) tow, and other coarse stuffing, with garlic, (*αλλιον*,) and cart or axle grease; one by one individually ready to fashion them altogether, so as to fix them by ties round the hoofs: if it should inflame, let him be blooded from the coronet; let him stand in a warm air where there is sunshine, or let fire be kindled in the winter time, and underspread him with dry dung, that he may not walk on what is hard. The feet may suffer in this way without being much inflamed; let him be attended eight days, and let him stand in-doors on dung, and his water be brought him, that his hoof may not by walking be torn asunder, but may grow, being nourished by what rises out of the dung.”*—The twigs of the *spartium* are here recommended to be employed in their simple state as cords, to bind on the dressings, and were probably placed under the foot, then platted up the sides, and made to meet above round the coronet.

A flat platting or braid, made of some length of rushes or broom, would be a simple and ready means of accomplishing this purpose, and was perhaps all that they meant.

The word *solea* would easily impart to us, who are so used to shoes, the notion of a shoe, and the words “*calceabis*,” and “*calceatis pedibus*,” (Veget. lib. 2, c. 55—58, &c,) would also appear to convey the same idea; that these expressions for several years in which I perused these writers, led me to imagine a real shoe, and also used for defence against wear on the roads; but we now fully believe our own customs in these respects led us to form much too serious notions of their expressions and practices in this respect. All they meant by *solea* was this lattice work of broom to go round and underneath the foot, and the loose ends were then twisted and platted up the sides, and brought at last to tie round the coronet. Thus Vegetius says, “if the hoof becomes injured, (abraded) bleed

* Ruellius Scriptores Græci Veterinarii, p. 254.

the foot, and when it has bled sufficiently, you are to rub the parts with salt, and afterwards anoint with vinegar and oil, and dress with soft cloths, using the shoe of spartea, that after the humours are evacuated, it may be repaired.” *

In all these cases, disease induces the application of it, and defence seems to be no object; indeed such slender twigs would soon be worn through if brought in contact with the surface of the road, that their inadequacy to defence will appear obvious we believe, and of course their perfect uselessness as a shoe.

This *spartum* or *spartea* used by the ancients was not the *common broom* of our heaths in England, (*Genista scoparia*) of which the small green brooms are made that are sold about the streets, which appears to be of too fragile, shrubby, and knotty a nature for this purpose, but the large yellow flowering plant we often see ornamenting our gardens, the *Spartium junceum*, of Linnæus, or *Spanish broom*, a native every where of the south of Europe: its stems may be observed to send forth numerous cylindrical rush-like twigs, which were the parts employed on these occasions: being tough, they might individually be used as strings, or, platted, or collectively formed into flat braids or rounded cords, they were exceedingly well adapted for keeping on the dressings of the horse's foot, being pliant and cool, and having interstices between them, and perhaps presenting every where in abundance in those regions by nature or cultivation; these twigs broken up, and their fibres detached, and again artificially combined, would readily form into large ropes or cords of any size; and it may almost be shown, that these expressions, *spartum*, *spartition*, &c., were almost or quite synonymous to cords and cordage, as Homer, in describing the sailing of the Grecian fleet,

* Cum sufficienter effluxerit cruor, sale perfricabis, postea aceto et oleo inunges, et linteolis munies diligenter. *Sparciam* calciare curabis, ut post egestionem humorum ungula reparetur.—*Veget. De Arte Veterin.* p. 43.

says the *sparta*, or cords, were unloosed ;* and Livy, in the Roman language, uses it in the same sense of cordage for shipping.†

It is clear also from the observations of Pliny, that a plant brought from the Northern coast of Africa was the *Spartum* of the Romans, of the uses and manufactory of which near Carthage he gives an interesting account ; but there appears some uncertainty as to the real plant that passed under this name among the Greeks in the latter periods of their empire, and of which Pliny, in his time, also entertained the same doubts that we now at this day entertain ; he states, however, very plainly that this Carthaginian plant, then called *Sparton*, was not the Grecian *Sparton*, and was unknown in Greece till it was introduced there in later times by the Carthaginians ; that prior to its introduction, the Phyllyrea, and leaves of the Palm, were in use there for making cordage of ; that a succession of different plants, after the *Spartium* had been disused by them, would appear to have been in use there.

Pliny describes the Spanish broom perfectly well, under the term *Genista*, its Roman name, and expresses his uncertainty whether it might not be the Grecian *Spartum* ; so that this plant, besides its striking habit and natural characters for such a purpose, appears to have, from his mode of mentioning it, a superior claim to any other of being considered the early *Sparton* of the Greeks : he observes also farther, that still in his day it was in use for ties, (“*vinculis*”) and in this case it is not at all improbable they might employ it for the coarser and more common domestic purposes, in which the binding up the hoofs of horses might very well be included.

Clusius has well described and figured this Carthaginian *Spartum*,‡ and tells us it is called by the natives *Albardin*, from shoes being made of it, called by the Spaniards, *Alpergates*, and which plant is

* Καὶ δὴ δοῦρα σέσηπε νεῶν, καὶ σπάρτα λέλυνται.—*Iliad*, Lib. ii. l. 135.

† Vis magna Sparti ad rem nauticam congesta ab Asdrubale.—*Livius*.

‡ *Clusius Hist. Plant. rar.* p. ccxix.

most certainly the *Stipa tenacissima* of Linnæus ; so that the Carthaginian *Spartum* is clearly made out, and is, we apprehend, that slender, wiry plant, which the common baskets or frails are made of, which our grocers in England receive their fruits in from these coasts at this day. Without, however, further considering this object, we shall be contented with remarking, that whichever of these plants it was that the ancients used, it could not have been near so strong as a shoe made of common wicker work, and would have been an incompetent defence against the abrasion of the roads, and consequently not at all to be considered in the light of a shoe, but merely as convenient bands or braids for keeping on dressings.

It would appear that long after the plant itself, *Spartum*, was discontinued as the material for making ropes of, the name still was retained, derived originally from the material of which they were made, and afterwards became a common appellation for them of whatever substance they were formed ; therefore *sparta* were ropes with the Greeks, although made of *rushes*, *phyllarea*, or *hemp*, or any other vegetable matter. A somewhat similar case appears in our own language, in the word so common among sailors, (*junk*) used for *oakum*, or *herds*, formed of the hemp (*cannabis*) with which they cawk or stop the fissures of their vessels in order to make them water-tight, and which is probably but a continuation of the old name *juncus*, *rushes*, the material originally employed by the ancients for this purpose. The *Schænus*, *σκοινος*, of the ancients, also was a sort of *carex*, or *sedge*, employed by them for making the finer cords or twine of : hence the whip used by our Saviour in the Temple was of the *σκοινων*, or of *small cords*, and hence, perhaps, from this sort of twine being sold in convenient links or loops for use, we get the familiar word *skeins*, or a *skein* of thread.

And in reviewing these measures of defence used by the ancients, we cannot altogether pass by the modern term *Hippocrepis*, (*ἵπποκρηπίς*) which, whether in use with the ancients or not, we are unacquainted ; but if analysed, it would strictly mean the *leather horse-shoe*, which

was the real shoe of those times, being formed of *hippos*, a horse, and *crepis*, *corium*, tanned leather. If the term *Hippocrepis* is merely a modern invention of the botanists, there appears to be a great incongruity in the application of it; for the plant, (a sort of trefoil or vetch,) which they have called after this name, and which has a pod or seed-vessel of a crescent shape, and corresponding exactly in figure to the modern nailed iron horse-shoe, is, unfortunately, in no way like the sock of leather which covered the whole under part of the foot of the horse with the ancients.

It is therefore most manifest and clear, from all the passages formerly quoted, and many others we might quote from Vegetius himself, concerning "*detritis pedibus*," and "*subtritis pedibus*," lib. 2, c. 58, also "*animalium ungulæ asperitate ac longitudine itinerum deterruntur*," lib. 2, c. 55; also "*In agendo itinere damnum e diurno detritis pedibus majus sit quam per noctis quietem tantum renasci possit*,"—Ruellius Script. Græci Veterin. lib. 2, fol. 99. &c., that the ancients did not generally shoe their horses, and that when they did, it was of the most simple kind, and much as they were used to shoe their own feet, and as we have before described a sock of leather or pelt, going round the whole foot, with sometimes *lemnisci*, and sometimes with iron attached to strengthen them, as is seen pretty plainly in the following passage, "*pedes quos sanos habit glante ferreo vel si defuerit, sparteâ calceabis, cui lemniscos subjicies, et addita fasciola diligentissime colligabis, et suppositiciam facies parti illi quæ misera est, ut planas ungulas possit ponere*:" Vegetius lib. 3, cap. 18.—here we see, perhaps, the whole machinery of their shoeing, and plainly and intelligibly enough; but we must not pass over the unique expression *glante ferreo*, which occurs here and is not again seen in this or any other writer that we know of, it may perhaps be but an insertion or corruption of the text with which, by frequent transcription, the work abounds.

There is however something very singular about it, for *glans* signifies an acorn, the fruit of the oak, and the figure which this fruit

presents projecting from its cup, would, if divided by a longitudinal section not badly represent the figure of the modern horse-shoe, or a section of its cup would do the same, but as nothing is said of nails for fastening it on, it cannot properly be considered, without other collateral evidence to mean any such thing. It may have been possibly a piece of iron turned round to the figure of the horses hoof, and which was then fastened on by rivets or otherwise to the *lemnisci*, or leather soles, and this, it is not at all impossible, might, under the pressure of necessity have been applied directly to the foot itself, and given birth to the modern horse-shoe: it is therefore probable that these metal plates, or acorns of iron, used to strengthen their *solea*, or shoe, were distinguished by the name of *Glantes ferrei*, and the passage tells us if they were not to be had they were to be contented with the *lemnisci*, and if not these, with the *sparteum opus*, which was rarely honoured with the title of *solea* or shoe.

Their shoes therefore were really and truly shoes in the proper sense of the word, and easily removable and much more agreeable to nature, than the night and day iron bondage we falsely call by that name.

Having now seen the nature of their shoes we may be permitted to advance a step further in considering how they were fastened on, which must have seemed so common and natural to them, that a description of it could hardly have been expected, we have it however in the above passage, where it says "*et addita fasciola diligentissime colligabis;*" and that this was really the way we can give further collateral proof from another and indubitable source.

That any actual representation of these bands of the ancients for fastening on their shoes, was now, at this distant period to be found, could hardly be hoped or expected, yet that such does really exist we shall presently give proof of. Engaged some years back in looking over the Veterinary Greek writers, I was led to observe that Apsyrtus complained of the horses legs being often cut with the violence used in the application of these bands even so as to injure and lay open

the joints, and he tells you how they were used to treat it : having copied this passage carefully into my former dissertation, (1st ed. 1809,) I was, shortly after sending it forth, induced to visit the British Museum, in order to see some horse-shoes of the nailed kind, that were positively said to have been found in the excavations of Herculaneum, but which proved to be not true, for they had, as I ascertained on inquiry of Sir Joseph Banks himself, who had sent them to the Museum, been found in a boggy pit on his estate in Lincolnshire, and appeared on examination of about the age of the Commonwealth, and having been presented by Sir Joseph, were placed for a few days, by some inadvertency, in the same case with the Herculaneum relics, which gave rise to the report. Whilst examining these shoes I was desired by the curators of the Museum to examine another curiosity which they were unable to give any feasible account of, and which was an ancient Tablet, representing a horse or chariot race, with the horses legs having some unaccountable envelopment which they doubted the propriety of representing, those on examination I pronounced to be the bands alluded to by Apsyrtus, under the name of *Hippopodes*, and are probably identical with the *fasciola* mentioned in the above passage by Vegetius.

I immediately procured an artist, my worthy friend Sydenham Edwards, to make a good drawing of them, an engraving of which is seen annexed and in which we may remark these bands on three, out of the four legs, of the horse, the fourth being deficient only from being by time nearly obliterated, these having by the boldness of the design much projected from the rest of the surface and had apparently been rubbed away : *see frontispiece*.

Over the horses is a tablet, inscribed with the name of *Anniæ Arescusa*, without doubt the winner of the race, and who is there represented in his full costume of Charioteer at these games, with the reins of the horses round his waist, guiding apparently four reins with the right and two with the left hand, which appear to belong to the two middle horses. He appears to be standing up in a two

wheel *curriculus*. The bits for the horses mouths are snaffles of the simplest kind. Another charioteer, as one might suppose by the bands round his body, has just passed the *meta*, he is however on horse back and is perhaps employed in keeping the course clear.

The tablet is a beautiful bas relief of *terra cotta*, or baked earth, impressed in a mould. And it is also singular, but which I chose to have preserved, his face is twice repeated either as in a mask or as from a projected shadow on a wall; perhaps some future researcher may be able to explain this; my friend Edwards, thought it a slip of the mould, this I should very much doubt, as in that case all the other lines of the piece ought to have shared the same fate. One unfortunate candidate appears prostrate near the base of the *meta*.

As this book is somewhat rare, and the passage highly curious, we subjoin it in the original Greek with the Latin version given of it by Ruellius, and an English translation.

“*APSYRTUS, concerning the injuries from foot defences or fastenings of the same.*
Chapter 107.

“It happens that the legs of the horse, (or rather shanks *μεσοκύνια*, *mesocynia*,) from the foot shackles *ἵπποπέδης*, *hippopedes*,) or its fastenings by the thong or cord, become injured, so that the skin falls down, (is destroyed) and the tendons of the fetlocks are laid bare. There is danger of this being fatal if it happen to both joints. It is proper, therefore, in the first place, to apply wine, vinegar, or brine and vinegar; next, to use the *lipara* and soft applications of white plaisters; and, to complete the cure, of ceruss one part, of ammoniacum half a part, of myrtle-berries a sufficient quantity; then triturating the ammoniacum, mixed with the ceruss, pour upon them, the myrtle, and use it.”

Apsyrtus iis qui compedibus aut vinculis collisi vitiantur. Cap ciii.

“Usuvenit ut suffragines, quas mesocynia vocant, tricis, pedicis, vinculisque quibusdam loro vel fune districtis plerunque lacesantur, quibus corium procidit, sic ut nervuli hujusce partis aperiantur, ac nudi pateant: id quod vitæ discrimen adfert, præsertim si in utroque

flexu articulorum evenerit. In primis igitur opus est vino vel aceto aut muria substringere, dein lipara et alborum emplastrorum tripheris vitiatam partem alere. Cæterum cerusæ pars una, ammoniaci dimidia portio, myrti quod esse satis vedebitur, præsentī sunt auxilio: ammoniacum itaque teritur in aqua, et cerusæ permiscetur, et baccæ myrti profunduntur.”*—*Ruellii Hippiatr.* Lib. 2, p. 100.

Apsyrtus lived in the time of Constantine, as we learn from Suidas, and also by his own confession in the preface to his work, having been employed with the army of this prince stationed on the Danube. The inconveniences he mentions as attending these defences were probably the true reason we hear so little of them, for they appear chiefly to have had recourse to them in case of necessity only, from abrasion of the roads, and great tenderness, and they afford sufficient proof that they knew not the use of nails as in this day: and hence, for long journeys, mules and asses were so much more employed, whose tough hoofs and less sensible feet could better endure the roads; though it is likely their paved causeways were highly favourable to their horses, &c. going without shoes, being in effect, and also in appearance, except that the stones were thicker and not so large, like the flag-stone pavements of the present day; the naked hoofs upon such a surface, if kept clean, would not be much torn or rubbed, or nearly so much as on a road made of loose gravel.

That the ancients defended their horses feet in this simple manner there can be little doubt; and as a sort of collateral confirmation, there is to be seen in the collection of pastes or impressions from

* ΑΨΥΡΤΟΥ περὶ τῶν ἀπὸ πέδης ἢ δεσμοῦ τινὸς τελασμένων—Κεφαλ. ρζ.

Συμβαίνει ἀδικηθῆναι τὰ μεσοκύνια ἐκ τῆς ἵπποπέδης, ἢ δεσμοῦ τινὸς ἀπὸ ἱμάντος, ἢ σχοινίου, καὶ ἡ βύρσα ἀποπίπτει, καὶ ψιλὰ γίνεται τὰ τοῦ κυνόπλου νευρία. κίνδυνον οὖν ἔξει διαφωνῆσαι εἰ ἐν ἀμφοτέροις τοῦτο γέγονεν. δεῖ οὖν πρῶτον ὑποστέφειν οἶνον, ἢ ὄξει, ἢ ὀξάλμῃ. ἔπειτα ταῖς λιπαραις, καὶ τῶν λευκῶν ἐμπλάστρων ταῖς τρυφεραῖς χρῆσθαι. ἄκρως δὲ ποιῇ τὸ τοῦ ψιμνυθίου μέρος ἐν, ἀμμωνιακοῦ τὸ ἥμισυ, υνρσίνης τὸ ἄρκοῦν. λεανας οὖν ἐν ὕδατι τὸ ἀμμωνιακὸν μίξον τῷ ψιμνυθίῳ παραχέων τὸ μύρσιον, καὶ χρῶ.—*Scrip. Græc. Veterin.* p. 256. *Ed. Basil.* 1537.

engraved stones of the ancients, now preserved in the British Museum, and formerly belonging to Baron Stosch, the representation of a soldier in the act of applying a defence of this description to the horses legs, at least the attitude he is in, makes it probable that such is his object : he appears kneeling down in front of the horse, with his right hand grasping the off-leg, while another soldier standing by is holding up the other bent backwards to the elbow assisting him. Beringer imagines this soldier is applying the shoe of broom about the shanks, which we should be led rather to doubt and to conjecture that it is with more probability these same *Hippopodes*, as the broom not being used on the road, hardly need to have been carried so high up the legs to be fastened on sufficiently.

The decline of the Roman Empire soon after this period, and the obscurity which followed, occasioned the Veterinary art, as an exclusive profession, to be lost again, and on iron nailed shoes being brought into use a few centuries afterwards, the smiths occupied with this practice became the only doctors of the horse, under the title of *Ferrers*, afterwards made *Ferriers*, which at length was corrupted into *Farriers*, having its origin in the Latin, *Ferrum*, Iron.

On the origin of modern Shoeing—From what has been exhibited of the ancients not having been acquainted with our mode of shoeing, the reader may have some desire of being informed of what has been hitherto discovered respecting the commencement of this art, and of its inventor. Of these particulars but little is at present known : nor will it probably ever be otherwise, as this mode of shoeing took place in the obscure periods of the decline of the Roman power. It was perhaps first brought into use by some of the barbarous nations which overran that empire. The Goths were a nation more especially likely to introduce such an art, because, like the rest of the northern nations, they excelled in working iron. At its commencement, it was probably merely a temporary resource in a case of great necessity and distress ; a breach, for example, made in the hoof was covered by an expert

workman nailing a piece of iron over it : this succeeding in remedying the defect would induce the repetition of it in other cases ; and growing more expert and bold by use, the artificer afterwards might extend his iron to the whole foot, and at length even apply it where no evil existed without a guess or thought of the consequences, as they would not immediately appear. He who first began the practice, whoever he may have been, little suspected he was laying the foundation of more animal suffering than ever it fell to the lot of one man to originate ; for not only have countless myriads of feet, during the twelve or thirteen centuries or more that this practice has been in use, been injured with the suffering, which in a greater or less degree must necessarily attend it from the changes and reduction of the feet that we have pointed out, but chastisements also for offences in going, still more hard to endure, it not being their fault, are to be added to it along with the cruelly severe bittings, or gaggings rather, and unmerciful usings up attended with scourgings and cruelty, of a description almost too atrocious and cruel for any pen to describe.

In the early period of the world which we have been considering in the first part of this essay, it was most fortunate perhaps, for the animal that they could not find out any stronger defence for his feet, since it prescribed bounds and much limited the harsh usage of him by severe and overcharged labour ; yet at times he might suffer with them also from the abrasion of his hoofs, but this was as nothing compared with the torments of the shoe and the inordinate labour it permitted them to exact.

These ancient nations, though often cruel one to another, in respect to their animals, exhibited traits of more lenity and kindness than the moderns ; at the finishing of the Hecatompodon the horses employed in this building we are informed were set at liberty for the rest of their lives. The graves of Simon's Mares, with which he thrice conquered at the Olympic games, are still to be seen near his own tomb, and which it is probable were suffered to die a natural death : where in modern times do we see so merciful a consideration !

This unreasonable severity is in great part to be accounted for

from the unnatural and miserable state into which the horse is brought by the effects of this shoeing art, which requires violence and cruelty to keep pace with it and overcome its effects, and the causes of which not being at once discernable, led to notions of difficulty and mystery which was strengthened by a sort of supposed connexion with an imaginary deep knowledge and supposed secret practices of the turf, notions, which though groundless, strongly fortified the vulgar opinion and errors in this affair, greatly to the disadvantage of the public and the suffering animals. And these mysterious feelings we have seen were not without foundation, for it was no easy matter to extricate the truth and show the sources of the mischief. And the lower order of stable servants on whom the care of our horses must necessarily devolve, took advantage of this state of things, and artfully kept up the apprehension of mystery and difficulty, and if on any occasion the reasonable or the humane man dared to interfere on seeing any brutality exercised, he was immediately driven off from the mystic ground with the barren phrase ever ready, of "*what do you know about horses?*" though perhaps himself but young and a perfect novice in the art he was pretending to, yet thus early had he learned his lesson to protect himself by such a worthless phrase from being scrutinized, though betraying the grossest ignorance or cruelty by the very act he was committing: but to return to our shoe.

The earliest nailed shoe of which there is any certain record, was found at Tournay, in Flanders, buried along with him in the coffin of Childeric, King of France, who died in the year 481, a particular account of the opening of this tomb is given by Chifletius;* and Montfaucon, in his antiquities, states, that this shoe was with nail holes in it, and that it fell to peices on being handled; he has figured it,† and from its size, one might readily suppose that it

* Anastasis Childerici, Francorum Regis, sive Thesaurus sepulchralis Tornaci Nerviorum effossus. Auct. J. J. Chifletius. Antwerpiae 1655, p. 224.

† Monumens de la Monarchie Francoise, Paris 1729. Tom. 1. p. 16. t. 6.

belonged to some favourite mule. So small a piece remained however of this shoe that the greatest part of the figure is supplied by the draftsman, and the holes are by no means decisive of its being a shoe of the nailed kind; for we may remark that the iron applied for the preservation of their socks or *Hippopodes*, must have been also perforated in order to fix them on to the leather soles, so that considerable uncertainty remains respecting this point; and the period also is only a century later than Vegetius.

The first clear and positive intimation of the modern shoe, at present known, is in the ninth century, in the reign of the Emperor Leo, of Constantinople, (perhaps Leo the sixth, who died A.D. 911) described in the *Tactica*, or inventory of horse furniture of this potentate, as stated by Beckman; (Leonis *Tactica*, vol. 4, cap. 6, p. 51;) the words are πεδίκλα, σεληναῖα σιδηρα μετὰ καρφιῶν αὐτῶν: that is “*capistra, ferra lunatica cum clavis eorum* ;” “halters for fastening horses, with crescent figured irons and their nails.” That this expression really relates to the modern shoe there can be no doubt, and the same words occur again on a similar occasion in the tenth century, in the reign of one of the Constantines; and in the twelfth century it is distinctly spoken of or alluded to by Eustathius, in his commentaries on Homer, who was led to apprehend in those passages which we have before treated of, that Homer had in view these modern shoes: his remarks are found at the 150th line of the eleventh book. It was indeed one of the errors of the revivers of ancient literature to endeavour to show on all occasions that they equalled or surpassed the moderns in knowledge.

Pere Daniel, in his *History of France*, gives us to understand that in the ninth century horses were not always shod, but only in time of frost, and on particular occasions.

With William the conqueror the art of shoeing appears to have come into England: he gave to Simon St. Liz, a Norman, the town of Northampton, and the hundred of Falkley, then valued at forty

pounds per annum, to provide shoes for his horses;* and Henry de Ferrers, who also came over with him, he appointed superintendent of the Shoers, whose descendants, the Earls of Ferrers, had six horse shoes in the quartering of their arms.† At Oakham in Rutlandshire, the seat of this family, a singular and rather tyrannical custom long prevailed,—if any baron of the realm passed through the place, for him to forfeit one of his horse shoes, unless he chose to redeem it by a fine; and the forfeited shoe, or the one made in its place, was fixed upon the castle gates inscribed with his name: in consequence of this custom the castle gates became in time covered with numerous shoes, some of them of an unusual size, and others gilt, &c. And certainly the practice of this art in these early times was attended with strong notions of mystery and cunning, and the miseries of the animal were constantly supposed to proceed from want of knowing the true trick which every one was apt to allow himself only to be in the possession of, and this subdued into fear those who rode, and was accompanied with a real awe of these characters.

A singular collection of old horse shoes existed in the Leverian Museum, which I examined before the sale and dispersion of that collection, but should apprehend the oldest of these could not have been more than 300 years; the absurd forms and unwieldy bulk of some of them served only to exhibit what wild conceits men may fall into, who know not the laws, or understand the proper limits, of their own art.

We conclude for the present our remarks on the art of shoeing, hitherto the most obscure and difficult branch of the veterinary profession, as will be readily admitted by those who have heretofore

* Dr. Pegge, in the *Archæologia* 1775, vol. iii. p. 39, who refers to Dugdale and Blount.

† Brook's *Catalogue of Errors*, p. 65.

much investigated it, and that which was obscure and difficult to be comprehended it is hoped will now be seen distinctly, and be easily understood, and the studious veterinarian will now obtain an insight into the nature of those cases which are continually presented to him, though deriving but little advantage from his exertions : and whether any means may hereafter be devised for removing these evils or not, to have arrived at a knowledge of the consequences and effects of the present system of managing the feet of horses is, it must be admitted, to have made no inconsiderable advancement in the science. But we have now a well founded hope that certain relief is attainable from these evils.

If the language of this treatise should have appeared different from that which has been usually employed on these subjects, this difference we may observe has been occasioned not less from necessity than choice, for the language formerly used was too often inexpressive and obscure, or what was worse, delusive ; an alteration therefore became indispensable. Some things quite unobserved and unnamed have been described and brought into a conspicuous point of view, whilst other points and considerations heretofore placed too high in the estimation of their importance, have been brought lower, and testimonies ample have been added of the advantages of the new mode of viewing and conducting these things, and which together form a new basis for the art founded on natural laws which can never be subverted : and may we not hope as the real knowledge of the animal and of the art advances, more just, humane, and generous measures will be pursued in his treatment, and violence, cruelty, and ignorant conceits, will be at last entirely done away. For in the present system after a horse has ten times earned his life and cost by his labours, is he exposed to shameful ill-treatment and with increasing rigour as his powers decline and his strength diminishes.

Dumb, and without an advocate, arrangements are made in which though he is expected to be the chief performer he has no voice,

and cheap labour and cheap conveyance is but too often obtained at the sole expense of his unnatural sufferings, although understanding and in every respect as sensible of the difference between good and bad treatment as are those themselves who inflict it.

Also of late in a more especial manner, under the name of *bits*, are introduced machinery into the horse's mouth, that are in reality mechanical levers and powers, suited only for inanimate matter, which can not only deaden, lacerate, and pinch the tender membranes of the mouth, but can crush with ease the very bones themselves, in this way adding terror to the affright of the animal and so exacting from him the last sad efforts of unnatural service and labour: these can be used unseen when the whip would excite attention and perhaps reprehension, and are every thing but what they pretend to be,—proper instruments for his guidance and restraint, and of which we propose shortly to give a more detailed account in an express essay. Nothing has been done by this horrid invention that was not previously as well or better done without it.

I know those who refuse to go into coaches where such violence is in use, and in choosing a hackney coach I have been often led to make choice where the bearing rein is not strained, and where the *bits* are to the mouth piece instead of these long levers. The bearing rein indeed has become an intolerable nuisance and almost continually abused, it ought never to be used but during actual service and then giving room for the horse to have the use of his neck and head which can much assist in his labour.

F I N I S.
